UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

335199

6951

JUL 5 1992

SF FILE NUMBER
5-8-10

Ref: 8HWM-SR

MEMORANDUM

TO: Linda Hart – Marasco Newton

FROM: Michael McCeney, RPM M H McCeney
Richardson Flat Superfund Site

SUBJECT: Information For NPL Book Update

The following is information pertinent to your efforts to update the NPL Book listing of the Richardson Flat Superfund Site. Please call me at (303) 294-7169 if you have questions or further needs.

The Richardson Flat Superfund Site was originally proposed for listing on the NPL in 1989. In 1991, in response to PRP comments to the proposed NPL listing rule, the HRS score for the site dropped below the threshold 28.5 and the site was therefore dropped from the proposed NPL. In February 1992, the site was again proposed for listing on the NPL, having been re-scored under the new HRS model. The site definition was changed somewhat in that the floodplain tailings were added as a source of contamination.

CERCLIS indicates that an RI/FS was begun in 9/89. No actual RI/FS work has been undertaken at the Site. The CERCLIS definition for RI/FS Start (in 1989) was the point in time at which funds were obligated to conduct the work. Funds were obligated but work was never undertaken.

If available resources allow, EPA plans to have PRP's begin conducting RI/FS work at the Site in 1993.

At this point, the site has not been segregated into operable units. Typically, this is not done until RI/FS work begins. **[Information in the above four paragraphs may not be appropriate for your book. I include it for your own information.]**

An estimated 2-7 million tons (1-4 million cubic yards) of tailings are contained by the dam (at the tailings disposal area). The volume of floodplain tailings is unknown.

Contaminants at the site include arsenic, cadmium, copper, lead, mercury, silver and zinc. All media at the site (air, soils, surface water and groundwater) have been found to contain elevated levels of some or all of these contaminants. Levels of contamination in the various media are tabulated on the attached sheets.

Subsequent to EPA's last data collection efforts, one of the PRP's at the site, United Park City Mines, has made voluntary efforts to secure and stabilize the site. Clean

soils have been imported and used as cover for the tailings deposit areas. The latest estimate provided by the PRP in April 1992 is that the tailings are 85% covered with approximately 18" if fill material and re-vegetated with native grass. The PRP has also erected a fence which surrounds the entire site providing site security. No apparent efforts have been made to mitigate potential sloughing of floodplain tailings into Silver Creek.

Currently the Region VIII removal program is conducting sampling at the site to quantify current releases of contaminants from the site and to assess the need for further site stabilization. This effort includes sampling of air, surface water, groundwater, and Silver Creek stream sediments. This sampling is being conducted as part of EPA's Make Sites Safe initiative. Results from the assessment are expected to be available in September 1992.

ATTACHMENT

-ATSDR Preliminary Health Assessment, July 24, 1990, pages 3,4,5

cc: Don Scrimgeour, 8OEA
Patrick Bustos, 8OEA

Table 1.
Groundwater*, 1985

Contaminant	Maximum Concentration [ppb] Off-Site Upgradient	On-Site	Drinking Water Criteria+
Arsenic	<5	349	50
Cadmium	<5	48	10
Chromium	<5	104	50
Lead	<30	1,080	20#
Manganese	20	10,400	50

*Unfiltered samples.
+National Interim Primary Drinking Water Regulations. U.S. Environmental Protection Agency, Office of Drinking Water, 1976.
#Proposed Maximum Contaminant Level at the tap.

2. Surface Water

Surface water samples were collected from the east bank of Silver Creek and from an intermittent stream that flows through the tailings. Surface water samples were analyzed for total metals and sulfate. The highest contaminant levels in Silver Creek were found immediately downstream from the site and at the discharge point for the intermittent, on-site stream (see Table 2). Approximately 2 miles upstream from the RFT site, the Prospector Square tailings may also serve as an important source of surface water contaminants.

Table 2.
Surface Water, 1986

Contaminant	Maximum Concentration [ppb] Upstream Silver Creek	Downstream Silver Creek
Arsenic	14	65
Copper	12	60
Lead	147	1,985

ATSDR Prelim. Assess.
7/24/90

3. Soil

Samples of surface and subsurface soil were collected from on-site and off-site areas (see Table 3 and 4). Soil samples were analyzed for total metals. Samples of subsurface, on-site soil samples (tailings) were analyzed for total metals and cyanide. Results of analyses of on-site surface soil (tailings) and off-site surface soil indicate levels of arsenic, cadmium, lead, and zinc substantially higher than the mean concentrations for the western United States.

Results of sample analyses of subsurface mine tailings indicated elevated levels of heavy metals and arsenic (see Table 4). Off-site, subsurface samples did not have contaminant levels above mean concentrations for the western United States, indicating the likelihood that off-site soil contamination is generally limited to the upper portions of the soil profile (2).

Table 3.
Surface Soil and Tailings, 1986

Maximum Concentration [ppb]

	Background*	On-Site	Mean for Western U.S.
Arsenic	58,000	3,600,000	5,500
Cadmium	17,000	80,000	200
Lead	1,110,000	8,530,000	17,000
Selenium	6,700	<400,000	230
Zinc	1,570,000	6.360,000	55,000

*Levels reported as background may not be true background because they were collected adjacent to the site and in an area with a history of mining activity.

Table 4.
Subsurface Soil and Tailings, 1986

Maximum Concentrations [ppb]

Contaminant	Background*	On-Site	Mean for Western U.S.
Arsenic	6,500	328,000	5,500
Cadmium	7,400	169,000	200
Lead	37,000	4,920,000	17,000
Selenium	<100	9,400	230
Zinc	70,000	23,200,000	55,000

*Levels reported as background may not be true background because they were collected adjacent to the site and in an area with a history of mining activity.

ATSDR Prelim Assess.
7/24/90

4. Air

Preliminary air monitoring was conducted using five high-volume air samplers at four sampling locations over a 5-day period. Air samples were analyzed for arsenic, cadmium, lead, and zinc. During air monitoring, weather conditions were dry with winds varying up to 20 miles per hour, although winds gusted up to 40 miles per hour during the first day of sample collection. The highest levels of airborne contaminants were detected during the first day of sampling at the air monitoring station downwind from the site (see Table 5). Air monitoring results verify that releases of airborne contaminants have occurred at the RFT site.

Table 5.
Air, 1986

Maximum Concentration [micrograms per cubic meter]

Contaminant	Upwind	Downwind
Arsenic	0.002	0.093
Cadmium	< 0.010*	0.082*
Lead	0.103	1.648
Zinc	0.091+	1.155+

*Matrix spike recovery was 65% for cadmium; actual value may be higher.
+Matrix spike recovery was 60% for zinc; values given are estimates.

B. Quality Assurance and Quality Control

Quality assurance and quality control procedures were used to ensure the accuracy of the monitoring programs conducted during site investigations at the RFT site. Sample collection and analyses were determined to have been performed according to approved procedures; therefore, monitoring results were determined to be acceptable. The conclusions contained in this report are based on the data package supplied to ATSDR. The accuracy of these conclusions depends on the reliability and comprehensiveness of the data contained in the materials reviewed.

C. Physical and Other Hazards

No on-site physical hazards were noted during the site visit.

PATHWAYS ANALYSES

A. Environmental Pathways (Fate and Transport)

1. Groundwater

Groundwater was encountered within 12 feet of the site's surface during the collection of on-site soil samples. In the site vicinity, the uppermost aquifer, with an average depth of 60 feet, lies within alluvial

ATSDR Prelim Assess.
7/24/90.